



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kevin H. Gillespie
Serial No. : 09/458,415
Filed : December 10, 1999
Title : SHOE OUTSOLE

Art Unit : 3728
Examiner : A. Stashick

Commissioner for Patents
Washington, D.C. 20231

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DECLARATION OF DAVID THORPE

I, David Thorpe, declare as follows:

1. I am Director of Engineering for The Stride Rite Children's Group, Inc. ("Stride Rite"). I have worked in shoe development, at Stride Rite and previously at C. & J. Clark International, since 1983. I have extensive experience in research and development pertaining to shoes for both children and adults.

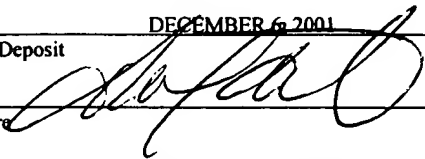
2. I am familiar with the above patent application, and with the commercial products that embody the claimed invention, referred to as "The Stride Rite Natural Motion System products." I have worked closely with the inventor, Kevin Gillespie, in the development of these products.

3. There are fundamental differences between adult feet and baby feet. Naturally, these differences translate into differences in footwear suitable for use by adults and by babies. Well-designed and engineered baby shoes incorporate many features and benefits not used in adult footwear and vice versa.

4. The Stride Rite Natural Motion System products are the result of several

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

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Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 06129-156001

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months of focused research, utilizing information obtained from a gait study that was performed at the Connecticut Children's Medical Center. The gait study looked at the gaits of a number of babies who were taking their first steps ("first walkers"), and identified key characteristics of the babies' gaits.

5. The gait study confirmed that gaits of first walkers are different from those of experienced, adult walkers, and raise different concerns. For example, we learned that walking barefoot was generally easier for first walkers than walking in the shoes that were tested. These shoes tended to cause the babies to wobble. We also found that a baby's foot naturally rolls from heel to toe in a proper gait, whereas the shoes that were tested introduced improper side-to-side motion. The gait study also determined the profile of pressure exerted on the sole of a baby's foot during walking, which allowed us to identify areas of relatively higher pressure.

6. Based on the information obtained from the gait study, we decided on two key objectives for our work in developing a new baby shoe. We wanted to develop a baby shoe that would (1) successfully mimic the barefoot walking characteristics of a first walker, and (2) aid the stability of the first walker, rather than destabilizing the baby's gait.

7. In considering the results of the gait study, we concluded that the wobbling and improper side-to-side motion introduced by the shoes that were tested occurred because the shoes were too stiff, had too many abrupt edges, and did not provide a good landing area at the heel.

8. In our new "Stride Rite Natural Motion System" shoe design, we created a shoe that would mimic the barefoot gait of a first walker by maximizing the shoe flexibility. Flexibility was maximized by providing: (a) a uniformly flexible outsole, with deep flex grooves to the end of the forefoot; (b) a Strobel construction with no insole; and (c) strategic positioning of upper seams to avoid flex areas. Barefoot walking was further simulated by providing a thin outsole to avoid extra weight that could inhibit natural gait; a flat pitch of the outsole from toe to heel, simulating the profile of a first walker's foot, and consistent substance padding under the foot.

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9. We enhanced the lateral-to-medial stability of a first walker's gait by providing a multi-durometer outsole. The outsole includes a soft durometer "landing pad" (inner member) under the baby's heel, and a soft "center stride path" (intermediate member). These relatively softer areas of the outsole provide resilient cushioning in regions of the baby's sole that experience high pressure during walking. We also provided (a) large radius areas at the heel and toe, giving a stable beginning to the gait and a bigger landing area for first walkers, many of whom land on an angle rather than straight on, and (b) a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane to avoid abrupt edges that could destabilize the baby's gait. In addition, we provided a flat waist arch inside the shoe, because first walkers have not yet developed an arch and thus adding an arch shape into the shoe may unbalance the baby.

10. I do not consider the objectives discussed above as being fundamental in the design of adult footwear. The mimicking of barefoot walking is essential to a first walker. The closer we get to achieving this goal, the easier the child will adapt to walking in footwear. Stability is also crucial, as a first walker adapting to footwear still has to master the art of balance. In contrast, an adult walker is already adept at walking, and has adapted to wearing shoes and perfected his or her balance.

11. I have reviewed the prior art references cited by the examiner in the above patent application. Each of these references describes a shoe that is designed for adult use and would not be suitable for a first walker. The Tomat shoe does not have the flexibility required for a baby shoe. Instead, the Tomat shoe has a relatively thick, inflexible outsole, and Tomat requires the use of a bulky insole 12 (see col. 2, line 61 and Fig. 7). The other shoes described in the references include studded soles, footbeds and thick rounded soles that would not be suitable for use in a baby shoe.

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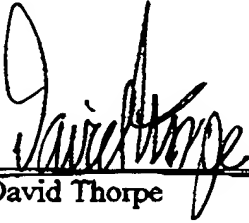
12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

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punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: December 5th 2001



David Thorpe

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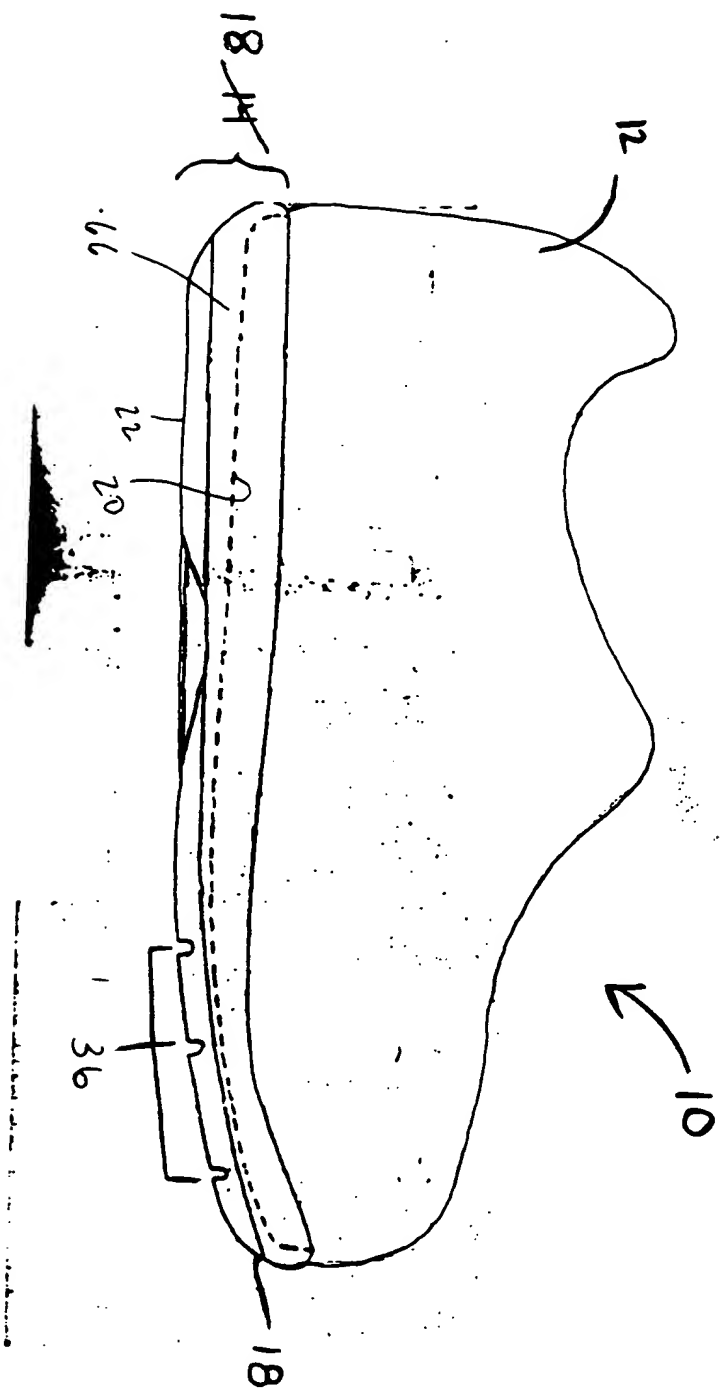


Fig. 1

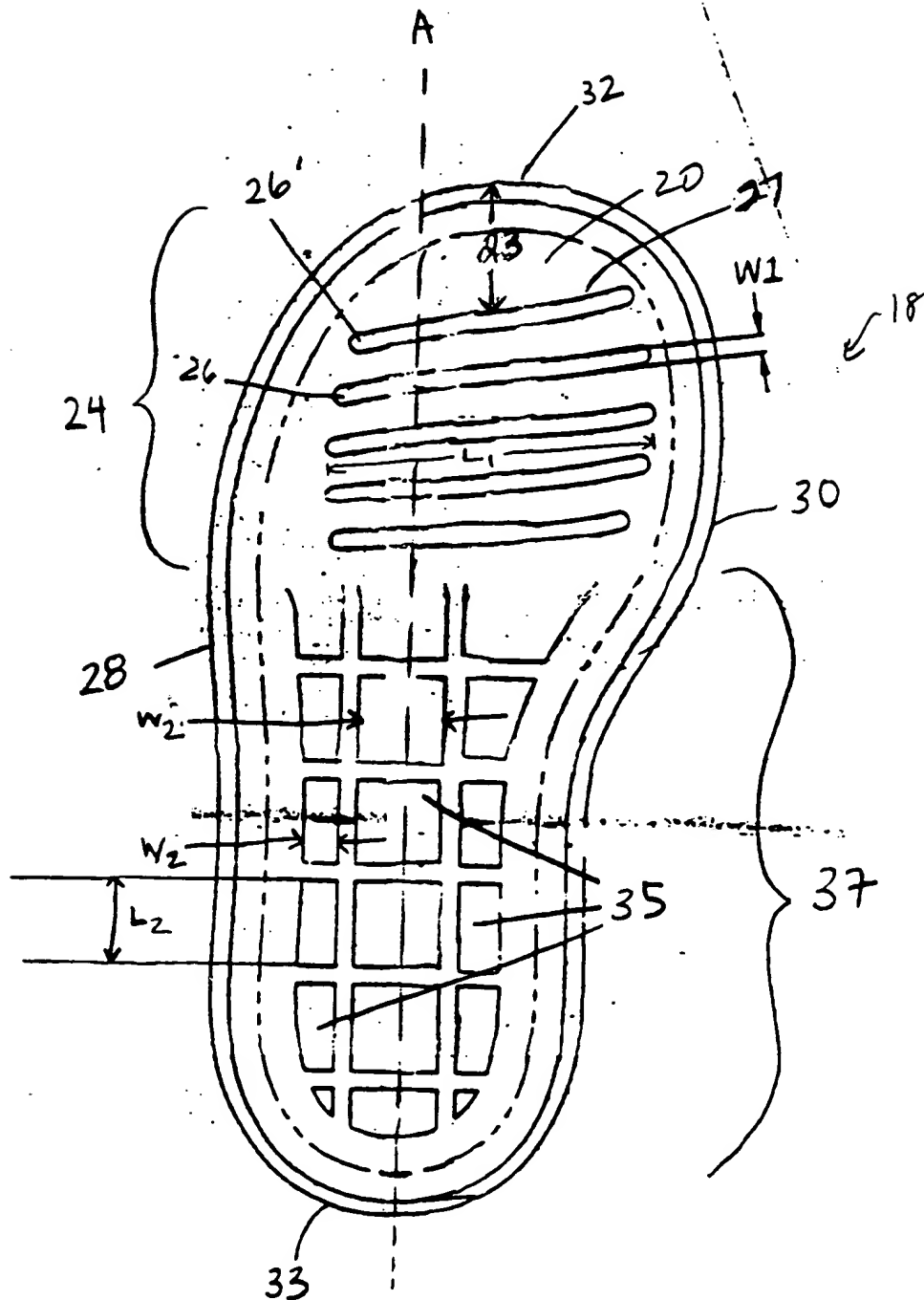


Fig. 2

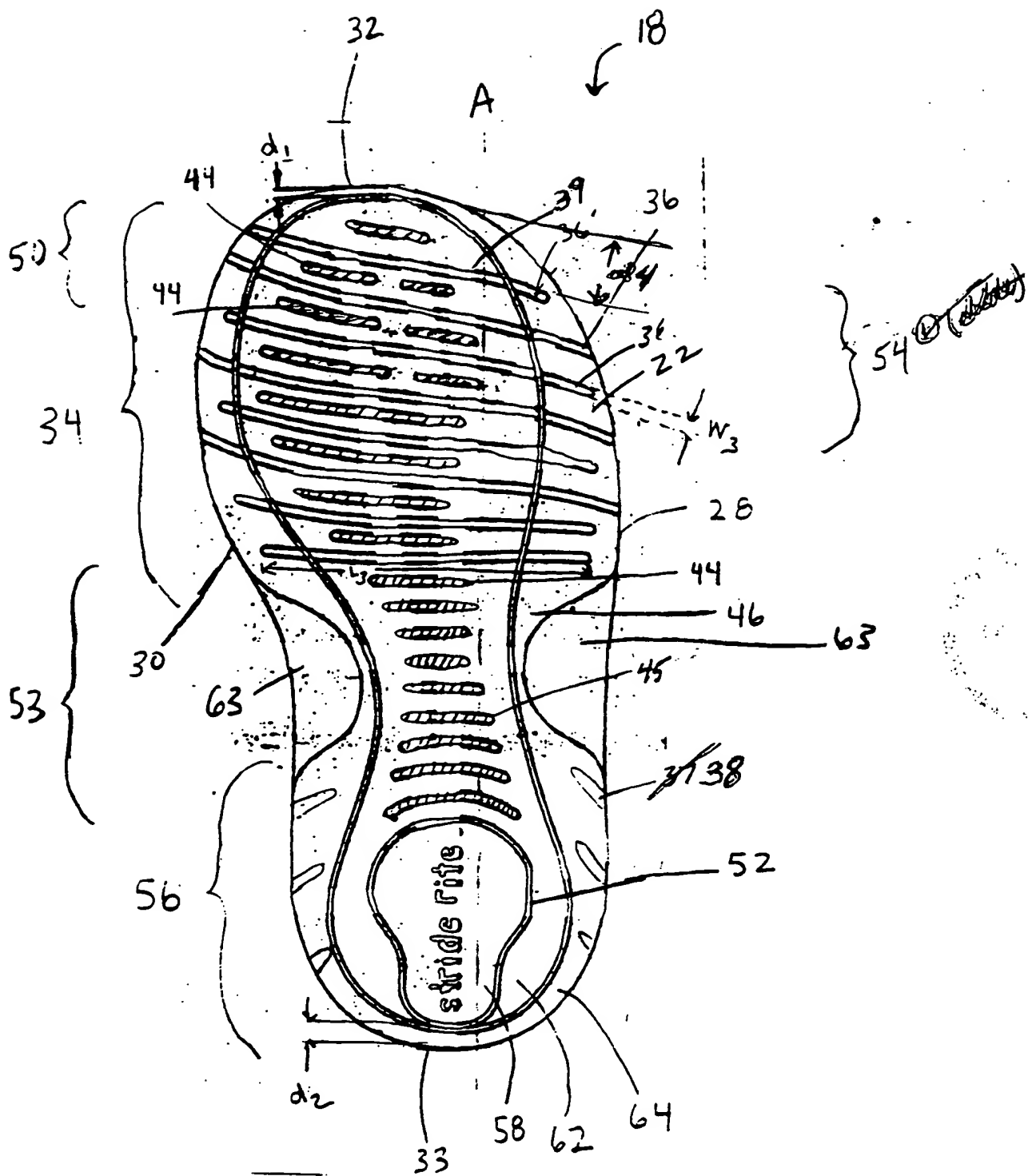


Fig. 3

Fig. 4

